Remarks

Applicant respectfully requests reconsideration of the present application in light of the foregoing amendments and following remarks.

Claims 1-26 are pending. Claims 1-5, 7, 8, and 21 are independent.

Claims 1-26 are rejected. These rejections are respectfully traversed.

Claims 21-23 are Patentable under 35 U.S.C. § 101

The Office Action ("Action") rejects claims 21-23 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses these rejections.

Applicant respectfully submits that claims 21-23 are indeed directed to statutory subject matter and directs the Examiner's attention to M.P.E.P. § 2101.06(I), which states that "a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory" (referring to *In re Lowry*, 32 F.3d 1539, 1583-84, 32 USPQ.2d 1031, 1035).

Furthermore, although not believed to be required, the specification is amended to add language pertaining to a computer-readable medium encoded with a computer program. The amendment to the specification is supported by original claims 21-23. No new matter is added.

Accordingly, the 35 U.S.C. § 101 rejections of independent claim 21 and its dependent claims 22 and 23 should be withdrawn.

Claims 1-26 are Patentable over Knappe and Holt under 35 U.S.C. § 103(a)

The Action rejects claims 1-26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,603,774 to Knappe et al. ("Knappe") in view of U.S. Patent No. 6,070,192 to Holt, et al. ("Holt"). Applicant respectfully traverses these rejections.

Claims 1, 9-13, and 24

Independent claim 1 is directed to a method of allocating tasks to a plurality of DSPs to handle calls in a voice gateway that receives calls, said calls utilizing a plurality of codecs, at least some of which utilize different amounts of DSP resources, and recites:

first determining if a particular call can be assigned to a DSP on a best fit basis, and

if a call can not be assigned on a best fit basis, assigning said particular call on a load balancing basis so as to balance the load on the plurality of DSPs.

The Action concedes at page 3 that Knappe does not teach "first determining if a particular call can be assigned to a DSP on a best fit basis" and "if a call can not be assigned on a best fit basis, assigning said particular call on a load balancing basis so as to balance the load on the plurality of DSPs," as recited in independent claim 1.

Holt fails to cure the deficiencies of Knappe because Holt does not teach or suggest at least "first determining if a particular call can be assigned to a DSP on a best fit basis," as recited in independent claim 1. The assigning of "a DSP on a best fit basis" as described in the present application generally includes determining if a DSP exists with only enough resources remaining to handle the incoming call, or if a DSP exists with the same first channel penalty as the incoming call (*see, e.g.,* the present application at page 6, line 10, to page 7, line 2). Resources can be allocated among a plurality of DSPs in a voice gateway by assigning calls with similar requirements to a sub pool of similarly situated DSPs, or codec resource groups. Use of the recited best fit basis thus desirably increases system efficiency by first attempting to use all available resources of the plurality of DSPs.

In contrast, Holt does not teach or suggest anything pertaining to a best fit basis, let alone determining whether a particular call can be assigned to a DSP on a best fit basis. Rather, Holt describes a simple determination as to whether requested call resources exceed a service quota (*see* FIG. 3a, as noted in the Action). For example, Holt describes a network controller that is operable "to determine whether a quantity of network resources currently used by the data service provider specified in the connection setup request is less than a service quota assigned to the data service provider" (*see* col. 4, lines 12-18). Thus, Holt merely describes determining whether call resources exceed a service quota and does not teach or suggest anything pertaining to a best fit basis, let alone "first determining if a particular call can be assigned to a DSP on a best fit basis," as recited in independent claim 1.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning a best fit basis, let alone "if a call can not be assigned on a best fit basis, assigning

said particular call on a load balancing basis so as to balance the load on the plurality of DSPs," as recited in independent claim 1.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 1.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 1 should be withdrawn.

Dependent claims 9-13 and 24 depend directly or indirectly from independent claim 1 and are allowable for at least the reasons presented above with respect to the parent claim 1.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejections of dependent claims 9-13 and 24 should be withdrawn.

Dependent claims 9-13 and 24 are also individually patentable. For example, Knappe does not teach or suggest a method "wherein said calls are assigned on a best fit basis using a best fit pool," as recited in dependent claim 9, let alone a method "wherein said best fit pool has a number of codec resource groups, the codecs in each codec resource group utilizing the same amount of DSP resource, and for each particular resource group said pool indicates which DSPs would be fully loaded if they were assigned a call using a codec in the particular resource group," as recited in dependent claim 10.

Rather, Knappe describes a system that focuses on selecting common codecs in order to establish a connection between two different telephony systems (*see, e.g.,* Knappe at col. 3, lines 7-15 and 47-65). Thus, because Knappe merely describes the assigning of similar codecs between two calls, Knappe does not teach or suggest either the best fit pool or the codec resource groups as recited in the claims.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejections of dependent claims 9 and 10 should be withdrawn for at least these additional reasons.

Claims 2, 14-18, and 25

Independent claim 2 is directed to a system for allocating a plurality of DSPs to handle calls in a voice gateway that receives calls, said calls utilizing a plurality of codecs, at least some of said codecs requiring different amounts of DSP resources, and recites:

means for first determining if a particular call can be assigned to a DSP on a best fit basis, and

means, operable if a call can not be assigned on a best fit basis, for assigning the call on a load balance basis so as to balance the load on the plurality of DSPs.

The Action concedes at page 3 that Knappe does not teach "means for first determining if a particular call can be assigned to a DSP on a best fit basis" and "means, operable if a call can not be assigned on a best fit basis, for assigning the call on a load balance basis so as to balance the load on the plurality of DSPs," as recited in independent claim 2.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or anything pertaining to determining whether a call can be assigned on a best fit basis, let alone "means for first determining if a particular call can be assigned to a DSP on a best fit basis," as recited in independent claim 2.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning a best fit basis, let alone "means, operable if a call can not be assigned on a best fit basis, for assigning the call on a load balance basis so as to balance the load on the plurality of DSPs," as recited in independent claim 2.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 2.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 2 should be withdrawn.

Dependent claims 14-18 and 25 depend directly or indirectly from independent claim 2 and are allowable for at least the reasons presented above with respect to the parent claim 2.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejections of dependent claims 14-18 and 25 should be withdrawn.

Dependent claims 14-18 and 25 are also individually patentable. For example, Knappe does not teach or suggest a method "wherein said calls are assigned on a best fit basis using a best fit pool," as recited in dependent claim 14, let alone a method "wherein said best fit pool has a number of codec resource groups, the codecs in each codec resource group utilizing the same amount of DSP resource, and for each particular resource group said pool indicates which DSPs

would be fully loaded if they were assigned a call using a codec in the particular resource group," as recited in dependent claim 15.

Rather, as discussed above, Knappe merely focuses on the selecting of common codecs in order to establish a connection between two different telephony systems. Thus, because Knappe merely describes the assigning of similar codecs between two calls, Knappe does not teach or suggest either the best fit pool or the codec resource groups as recited in the claims.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejections of dependent claims 14 and 15 should be withdrawn for at least these additional reasons.

Claims 3, 6, and 26

Independent claim 3 is directed to a method of allocating a plurality of DSPs to handle calls in a voice gateway, said calls utilizing a plurality of different codecs, said codecs requiring a plurality of different amounts of DSP resources, and recites:

> first determining if the call can be assigned to a DSP on a best fit basis utilizing a best fit pool which indicates the DSPs that would be fully loaded by a call using a codec in an associated resource group, the codecs in each resource group requiring substantially the same amount of resources; and
> if the call can not be assigned on a best fit basis, assigning the call to a DSP with a lightest load utilizing a load balancing pool which indicates the number of calls on each DSP.

The Action concedes at page 4 that Knappe does not teach "first determining if the call can be assigned to a DSP on a best fit basis utilizing a best fit pool which indicates the DSPs that would be fully loaded by a call using a codec in an associated resource group, the codecs in each resource group requiring substantially the same amount of resources" and "if the call can not be assigned on a best fit basis, assigning the call to a DSP with a lightest load utilizing a load balancing pool which indicates the number of calls on each DSP," as recited in independent claim 3.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or suggest anything pertaining to determining whether a call can be assigned on a best fit basis, let alone "first determining if the call can be assigned to a DSP on a best fit basis utilizing a best fit pool which indicates the DSPs that would be fully loaded by a call using a codec in an associated resource

group, the codecs in each resource group requiring substantially the same amount of resources," as recited in independent claim 3.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning a best fit basis, let alone "if the call can not be assigned on a best fit basis, assigning the call to a DSP with a lightest load utilizing a load balancing pool which indicates the number of calls on each DSP," as recited in independent claim 3.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 3.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 3 should be withdrawn.

Dependent claims 6 and 26 depend from independent claim 3 and are allowable for at least the reasons presented above with respect to the parent claim 3. Dependent claims 6 and 26 are also individually patentable.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejections of dependent claims 6 and 26 should be withdrawn.

Claim 4

Independent claim 4 is directed to a system for allocating a plurality of DSPs to handle calls in a voice gateway, said calls utilizing a plurality of different codecs, said codecs requiring a plurality of different amounts of DSP resources, and recites:

> means for first determining if the call can be assigned to a DSP on a best fit basis utilizing a best fit pool which indicates the DSPs that would be fully loaded by a call using a codec in the associated resource group; and
> means, operable if a call can not be assigned on a best fit basis, for assigning the call to a DSP utilizing a load balancing pool which indicates the number of calls on each DSP.

The Action concedes at page 5 that Knappe does not teach "means for first determining if the call can be assigned to a DSP on a best fit basis utilizing a best fit pool which indicates the DSPs that would be fully loaded by a call using a codec in the associated resource group" and "means, operable if a call can not be assigned on a best fit basis, for assigning the call to a DSP

utilizing a load balancing pool which indicates the number of calls on each DSP," as recited in independent claim 4.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or suggest anything pertaining to determining whether a call can be assigned on a best fit basis, let alone "means for first determining if the call can be assigned to a DSP on a best fit basis utilizing a best fit pool which indicates the DSPs that would be fully loaded by a call using a codec in the associated resource group," as recited in independent claim 4.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning a best fit basis, let alone "means, operable if a call can not be assigned on a best fit basis, for assigning the call to a DSP utilizing a load balancing pool which indicates the number of calls on each DSP," as recited in independent claim 4.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 4.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 4 should be withdrawn.

Claim 5

Independent claim 5 is directed to a method of allocating a plurality of resources to handle tasks, said tasks utilizing a plurality of different amounts of resources, and recites:

> first determining if a task can be assigned to a resource on a best fit basis utilizing a best fit pool which indicates the resources that would be substantially fully loaded by a task in an associated resource group, the codecs in each resource group requiring substantially the same amount of resources; and
> if a task can not be assigned on a best fit basis, assigning the task to a resource utilizing a load balancing pool which indicates the number of tasks assigned to each resource.

The Action concedes at page 6 that Knappe does not teach "first determining if a task can be assigned to a resource on a best fit basis utilizing a best fit pool which indicates the resources that would be substantially fully loaded by a task in an associated resource group, the codecs in each resource group requiring substantially the same amount of resources" and "if a task can not

be assigned on a best fit basis, assigning the task to a resource utilizing a load balancing pool which indicates the number of tasks assigned to each resource," as recited in independent claim 5.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or suggest anything pertaining to determining whether a call can be assigned on a best fit basis, let alone "first determining if a task can be assigned to a resource on a best fit basis utilizing a best fit pool which indicates the resources that would be substantially fully loaded by a task in an associated resource group, the codecs in each resource group requiring substantially the same amount of resources," as recited in independent claim 5.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning a best fit basis, let alone "if a task can not be assigned on a best fit basis, assigning the task to a resource utilizing a load balancing pool which indicates the number of tasks assigned to each resource," as recited in independent claim 5.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 5.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 5 should be withdrawn.

Claims 7 and 19

Independent claim 7 is directed to a method of allocating tasks to a plurality of DSPs to handle calls in a voice gateway that receives calls, said calls utilizing a plurality of different codecs, at least some of said codecs requiring different amounts of DSP resources, and recites:

> establishing a best fit pool which has a number of codec resource groups, the codecs in each codec resource group utilizing the same amount of DSP resource, and for each particular resource group indicating which DSPs would be fully loaded if they were assigned a call using a codec in the particular resource group;
> establishing a load balancing pool that has a number of call load groups, the DSPs in each call load group handling the same number of calls;
> first determining if a particular call can be assigned to a DSP based on the information in the best fit pool; and

if a call can not be assigned on a best fit basis, assigning said particular call on a load balancing basis using the information in said load balancing pool.

The Action concedes at page 7 that Knappe does not teach "for each particular resource group indicating which DSPs would be fully loaded if they were assigned a call using a codec in the particular resource group," "establishing a load balancing pool that has a number of call load groups, the DSPs in each call load group handling the same number of calls," "first determining if a particular call can be assigned to a DSP based on the information in the best fit pool," and "if a call can not be assigned on a best fit basis, assigning said particular call on a load balancing basis using the information in said load balancing pool," as recited in independent claim 7.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or suggest anything pertaining to determining whether a call can be assigned based on information in a best fit pool, let alone "first determining if a particular call can be assigned to a DSP based on the information in the best fit pool," as recited in independent claim 7.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning information in a best fit pool, let alone "if a call can not be assigned on a best fit basis, assigning said particular call on a load balancing basis using the information in said load balancing pool," as recited in independent claim 7.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 7.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 7 should be withdrawn.

Dependent claim 19 depends from independent claim 7 and is allowable for at least the reasons presented above with respect to the parent claim 7. Dependent claim 19 is also individually patentable.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejection of dependent claim 19 should be withdrawn.

Claims 8 and 20

Independent claim 8 as amended is directed to a system for allocating tasks to a plurality of DSPs to handle calls in a voice gateway that receives calls, said calls utilizing a plurality of different codecs, at least some of said codecs requiring different amounts of DSP resources, and recites:

> a best fit pool which has a number of codec resource groups, the codecs in each codec resource group utilizing the same amount of DSP resources to handle a call, and for each particular resource group indicating which DSPs would be fully loaded if they were assigned a call using a codec in the particular resource group;
> a load balancing pool which has a number of call load groups, the DSPs in each call load group handling the same number of calls;
> means for determining if a particular call can be assigned to a DSP based on the information in the best fit pool; and
> means, operable if a call can not be assigned on a best fit basis, for assigning said particular call on a load balancing basis using the information in said load balancing pool.

The Action concedes at page 8 that Knappe does not teach at least "means for determining if a particular call can be assigned to a DSP based on the information in the best fit pool" and "means, operable if a call can not be assigned on a best fit basis, for assigning said particular call on a load balancing basis using the information in said load balancing pool," as recited in independent claim 8.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or suggest anything pertaining to determining whether a call can be assigned based on information in a best fit pool, let alone "means for determining if a particular call can be assigned to a DSP based on the information in the best fit pool," as recited in independent claim 8.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning information in a best fit pool, let alone "means, operable if a call can not be assigned on a best fit basis, for assigning said particular call on a load balancing basis using the information in said load balancing pool," as recited in independent claim 8.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 8.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 8 should be withdrawn.

Dependent claim 20 depends from independent claim 8 and is allowable for at least the reasons presented above with respect to the parent claim 8. Dependent claim 20 is also individually patentable.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejection of dependent claim 20 should be withdrawn.

Claims 21-23

Independent claim 21 as amended is directed to a computer readable medium having stored thereon sequences of instructions for allocating a plurality of resources to handle tasks, said tasks utilizing a plurality of different amounts of resources, and recites:

> first determining if a task can be assigned to a resource on a best fit basis utilizing a best fit pool which indicates the resources that would be substantially fully loaded by a task in the associated resource group, the codecs in each resource group requiring substantially the same amount of resources; and
> if a task can not be assigned on a best fit basis, assigning the task to a resource utilizing a load balancing pool which indicates the number of tasks assigned to each resource.

The Action concedes at page 11 that Knappe does not teach "first determining if a task can be assigned to a resource on a best fit basis utilizing a best fit pool which indicates the resources that would be substantially fully loaded by a task in the associated resource group, the codecs in each resource group requiring substantially the same amount of resources" and "if a task can not be assigned on a best fit basis, assigning the task to a resource utilizing a load balancing pool which indicates the number of tasks assigned to each resource," as recited in independent claim 21.

Holt does not cure the deficiencies of Knappe. As discussed above, Holt does not teach or suggest anything pertaining to a best fit basis. Thus, Holt does not teach or suggest anything pertaining to determining whether a call can be assigned on a best fit basis, let alone "first determining if a task can be assigned to a resource on a best fit basis utilizing a best fit pool which indicates the resources that would be substantially fully loaded by a task in the associated resource group, the codecs in each resource group requiring substantially the same amount of resources," as recited in independent claim 21.

Furthermore, because Holt does not teach or suggest anything pertaining to a best fit basis, Holt does not teach or suggest any type of action performed responsive to a determination concerning a best fit basis, let alone "if a task can not be assigned on a best fit basis, assigning the task to a resource utilizing a load balancing pool which indicates the number of tasks assigned to each resource," as recited in independent claim 21.

Therefore, Applicant respectfully submits that Knappe and Holt, whether taken individually or in combination with each other, do not teach or suggest all of the features recited in independent claim 21.

Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 21 should be withdrawn.

Dependent claims 22 and 23 depend directly or indirectly from independent claim 21 and are allowable for at least the reasons presented above with respect to the parent claim 21. Dependent claims 22 and 23 are also individually patentable.

Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejections of dependent claims 22 and 23 should be withdrawn.
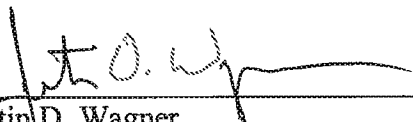
Conclusion

Applicant submits that the present application is in condition for allowance and such action is respectfully requested.

The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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